

CONTRIBUTION TO A KNOWLEDGE OF THE
ARANEIDAN FAUNA OF SANTA CRUZ.

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(Plates xxiv.-xxv.)

During the latter part of 1897, Mr. John Jennings, formerly of the Australian Museum, paid a short visit to the Island of Santa Cruz, in the South Pacific, and whilst there made a small collection of Araneidæ. This he handed over to me shortly before his departure for Europe, with the request that I should draw up a list of the forms obtained, and describe and figure any that might prove to be new or of exceptional interest. The results of my investigation are enumerated below, by which it will be seen twenty-four species are recorded, ten of which are new to science. It has been necessary also to create two new genera—*Eunesiotes* and *Gnathopalystes*. With the type species of the former genus I have taken the liberty of associating Mr. Jennings' name as a permanent tribute to his endeavour to bring together a large and systematic zoological collection of an island, the fauna of which is absolutely unknown. Unhappily his effort in the direction referred to was marred by an attack of island fever, a malady so prevalent and distressing to new comers.

The present contribution, although a small one, is of more than passing value, seeing that it is the first systematic record of any branch of zoology from this island. Only one paper dealing with its conchological fauna has, so far, been published, and this from the pen of my colleague, Mr. Chas. Hedley.* Otherwise nothing is known of Santa Cruz, either as regards its Mammals, Reptiles, Birds—or its Botany. Here, then, is a field, close to home,

* "Description of a New Bivalve, *Lima alata*, from Santa Cruz." Rec. Aust. Mus., Vol. iii. No. 4, 1898, p. 84.

altogether unexplored; and who can say what it may bring to light, when systematically worked, that will prove of value and interest to the biologist?

Now that these South Pacific Islands have been brought under the British flag, it may not be out of place here to suggest that a more appropriate or distinctive name be chosen. This would have many advantages; in the first place it would remove the confusion that at present exists when the name of Santa Cruz is mentioned. On referring to an atlas it will be seen that there are three large islands bearing this name: one off the coast of California, a second in the West Indies (Caribbean Sea), and a third the island and archipelago in the South Pacific. The name Santa Cruz has been indiscriminately bestowed upon numerous occasions, having been used for towns, mountains, rivers, islands and an archipelago. In respect of the island under consideration, Nitendi was the old native name.

Family AVICULARIDÆ.

Subfamily AVICULARIINÆ.

Genus ISCHNOCOLUS, Auss.

1. ISCHNOCOLUS NEBULOSUS, sp.nov.

(Plate xxiv., fig. 1.)

♀. Cephalothorax 4·6 mm. long, 3·9 mm. broad; abdomen 7·8 mm. long, 5 mm. broad.

Cephalothorax obovate, convex, glabrous, brown, pubescent. *Caput* sparingly pubescent, strongly arched, sloping forward, truncated in front, where it is margined with a broad, pallid band. *Clypeus* broad, moderately arched, pubescent, radial grooves distinct, junction of cephalic and thoracic segments indicated by a deep transverse indentation or cleft. *Marginal band* broad and of a pallid tint.

Eyes mounted on a transversely oval tubercle, and arranged in two rows consisting of three series of 4, 2, 2; the first series form a slightly procurved row, and of these the median eyes are some-

what the largest of the group; those constituting the posterior row are distributed in pairs, and of these the lateral eyes are somewhat the largest.

Legs yellow-brown, moderately long and strong, densely clothed with coarse yellowish hairs, and armed with long thin spines; metatarsi and tarsi furnished with scopulæ; tarsal claws long and strong. Relative lengths: 4, 1, 2, 3.

Palpi long, strong, similar in colour and armature to legs; each palpus terminating with a claw and scopula.

Falces long, strong, projecting well forward, yellow-brown, densely clothed with coarse yellowish hairs; fangs long.

Maxillæ long, narrow, divergent, yellowish-brown, densely clothed with long yellowish hairs.

Labium concolorous, arched, broader than long, truncated at apex.

Sternum concolorous also, longer than broad, shield-shaped, flat, densely clothed with coarse hairs or bristles.

Abdomen obovate, moderately projecting over base of cephalothorax, clothed with fine, yellowish hairs; colour yellow-brown with dark cloudy markings; the two superior spinnerets long and cylindrical.

Epigyne a simple transverse slit with a strongly arched overhanging lip.

Family PHOLCIDÆ.

Subfamily PHOLCINÆ.

Genus PHOLCUS, Walck.

2. PHOLCUS ANCORALIS, L. Koch.—Originally recorded from the islands of Upolu and Tonga.

Family ARGIOPIDÆ.

Subfamily ARGYROEPEIRA, Emer.

3. ARGYROEPEIRA CELEBESIANA, Walck.—This species is evidently of Malayan origin, and is widely distributed. From the Malayan region it ranges from the west in Burma, eastward into New Guinea, Australia, and the South Pacific Islands.

Subfamily NEPHILINÆ.

Genus NEPHILA, Leach.

4. NEPHILA MACULATA, Fab.

5. N. MACULATA, Fab., var. PENICILLUM, Dol.—Both widely distributed; ranging from Burma eastward to the South Pacific.

Subfamily ARGIOPINÆ.

Genus ARGIOPE, Aud. et Sav.

6. ARGIOPE ÆTHEREA, Walck.—Mr. Jennings obtained ten specimens of this species, no two of which agree in the scheme of colouration or ornamentation. This species is found in New Guinea, Australia, and many of the South Pacific islands. Dr. Willey collected it at Lifu, in the Loyalty Islands; Keyserling also recorded it from the Loyalty Group.

Genus CYRTOPHORA.

7. CYRTOPHORA MOLUCCENSIS, Dol.—Widely distributed over India, Ceylon, Malasia, Papua, and South Pacific Islands. Dr. Willey collected it at Lifu, Loyalty Islands.

Genus ARANEUS, Clerck.

(= *Epeira* of Authors.)

8. ARANEUS THEISII, Walek —Mr. Jennings obtained a number of this widely distributed and variable form. Comparing them with specimens obtained by Mr. Chas. Hedley at Funafuti, I can see no reason to modify my opinion in respect of species described and figured by me in "Memoirs of the Australian Museum," iii. Part 2. In reference to Mr. Pocock's criticism, I maintain that my species are specifically differentiated according to the ordinary standard, that even an extreme "lumper" would acknowledge some of them to be distinct, and the remainder varieties sufficiently distinct to require designation.

9. ARANEUS SUAVIS, sp.nov.

(Plate xxiv., figs. 2, 2a.)

♀. Cephalothorax 2 mm. long, 1.5 mm. broad; abdomen 3.8 mm. long, 2.8 mm. broad.

Cephalothorax: longer than broad, sparingly hairy, yellowish. *Caput* high, arched, moderately hairy, normal grooves distinct, yellowish, with two dark, longitudinal lines running from median group of eyes to base of cephalic segment. *Clypeus* yellowish, strongly arched, moderately hairy, radial grooves and median depression distinct. *Marginal band* broad.

Eyes black, arranged in three groups; the median series are seated upon a somewhat quadrangular tubercular eminence; of these the anterior pair are separated from each other by a space equal to nearly twice their individual diameter, and the posterior by scarcely so much; the lateral eyes are minute, and seated obliquely upon small tubercles, but are not contiguous.

Legs long, strong, tapering, yellowish with dark brown annulations, clothed with pale yellowish hairs, and armed with short, strong, black spines. Relative lengths: 1, 2, 4, 3.

Palpi similar in colour, clothing and armature to legs.

Falces yellowish, strong, broad, arched, divergent at tips.

Maxillæ short, strong, broad, moderately arched, divergent, dark brown laterally, inner margins pallid.

Labium short, broad, rounded off at tip; the base dark brown, apex pallid.

Sternum shield-shaped, glossy, brown, moderately arched, sparingly clothed with short, hoary hairs.

Abdomen ovate, boldly projecting over base of cephalothorax, strongly arched, yellowish-brown; at the centre there are two dark brown spots widely separated, and below these again, at a considerable distance, there are two others, equally as dark, and in a line with them; somewhat further down there are two smaller spots, and these are seated closer together; commencing just

above and between the first pair of spots a scheme of delicate tracery commences, and this consists of a median line running to the posterior extremity; near the second pair of spots two lateral lines branch out, and these, cutting right through the third pair of spots, continue to posterior extremity; below the third pair, again, two smaller lines branch out from the median line, and unite with the lateral lines just described; below the colour is somewhat darker.

Epigyne a small, dark brown, obtusely pointed, overhanging lip.

Genus GASTERACANTHA, Sund.

10. GASTERACANTHA HEBRIDISIA, Butl.—To his description Mr. Butler appends the following note:—"Somewhat intermediate in character between *G. teniata* and *G. westringii*, and remarkable for the unique colouration of the ventral surface of the abdomen."*

Genus EUNESIOTES, gen.nov.

Closely allied to *Poecilopachys*, E. Sim.

Cephalothorax rather longer than broad, and strongly arched. *Caput* high, but sloping forward. *Clypeus* broad, arched, sloping posteriorly.

Eyes prominent, arranged in three groups of 2, 4, 2; lateral eyes minute and contiguous.

Legs short, slender, tapering. Relative lengths: 1 = 2, 4, 3.

Maxille short, broad, divergent.

Labium nearly twice as long as it is broad, moderately convex, and rounded off at apex.

Sternum shield-shaped, moderately arched, tuberculated laterally.

Abdomen obtusely triangular, broader than long, strongly arched, devoid of tubercles, the superior surface ornamented with cicatrose spots or depressions.

* Trans. Ent. Soc. 1873. Mr. A. G. Butler's "Monographic List of Gasteracantha," p. 166.

11. EUNESIOTES JENNINGSI, sp.nov.

(Plate xxiv., 3, 3a, 3b.)

♀. Cephalothorax 2.4 mm. long, 2.3 mm. broad; abdomen 5.1 mm. long, 6.8 mm. broad.

Cephalothorax slightly longer than broad, arched. *Caput* mahogany-brown, glossy, very finely punctured, high, convex, sloping forward, normal grooves distinct. *Clypeus* broad, arched, glossy, sides rather paler than *caput*, hinder extremity pale yellow, radial grooves indistinct. *Marginal band* narrow.

Eyes black; the four comprising the median group form a square, or nearly so, and are elevated on a slight tubercular eminence; the anterior pair comprising this group are separated from each other by a space equal to fully twice their individual diameter, and those of the anterior row by a space equal to nearly two diameters; the lateral eyes are widely removed from the median series, and seated obliquely upon small tubercles; they are minute and contiguous to each other.

Legs yellowish, short, slender, tapering, clothed with fine hairs and armed with moderately long spines; tarsal claws black, pectinated. Relative lengths: 1 = 2, 4, 3.

Palpi short, slender, similar in colour and armature to legs.

Falces yellowish, glossy, short, strong, arched, divergent at apex; the lower margins of the furrow of each falx are armed with a row consisting of two long and strong teeth and three smaller ones, and the upper margin with a row of three long teeth, and one small one; fangs short.

Maxilla arched, short, strong, glossy, divergent, outer margins reddish-brown, inner margins pale yellowish.

Labium arched, broader than long, glossy, rounded off at apex; reddish-brown from base to near apex, thence pale yellowish.

Sternum shield-shaped, broad, moderately convex, pale yellowish, tuberculated laterally.

Abdomen obtusely triangular, boldly projecting over base of cephalothorax, broader than long, strongly arched; the anterior angle (where it is broadest) is moderately procurved; from thence

the sides retreat sharply towards the posterior extremity, where it terminates in a blunt point; the superior surface is closely and numerously indented with very fine punctures; in addition to these there is a slightly waved row of seven large cicatrose spots or depressions running along the margin of the anterior angle; in front of these there is on each side a series of four smaller cicatrose depressions, and between these two series a group of three larger ones; immediately below the procurved series there are two smaller cicatrose depressions, but these are not close together; again, at the centre of the superior surface there are two other depressions larger than the preceding pair, and these are widely separated; immediately below the latter there are, yet again, two smaller depressions seated closely together; laterally, there is a large number of these depressions, all of which are small and geometrically arranged; the colouration of the superior surface is very variable: in some specimens it is entirely dark blue, whilst in others it is brown anteriorly, succeeded by a transverse band of yellow, the margins of which are uneven, then a broad band of dark blue, relieved by narrow pro- and re-curved bands of yellow, and thence to posterior extremity tawny; the inferior surface is furrowed, the furrows curving towards and around the spinnerets; above the spinnerets the colour is dark brown, and beyond them a dirty yellow (Fig. 3 illustrates one of the varieties).

Epiygne a rather elongated obtuse projection.

Family CLUBIONIDÆ.

Subfamily SPARASSINÆ.

Genus ISOPODA, L. Koch.

12. ISOPODA HERCULEA (?), Thor.—I think there can be little doubt as to the identity of this huge creature. Unfortunately Mr. Jennings only secured one example. The genus abounds, according to Simon, in Malasia, New Guinea, and Australia; it is only reasonable to expect, therefore, that representatives of it will be found in the islands of the South Pacific.

Genus HETEROPODA, Latr.

13. HETEROPODA VENATORIA, Linn.—The common house spider of the tropics. Two ♀ specimens were obtained.

Genus PRYCHIA, L. Koch.

14. PRYCHIA GRACILIS, L. Koch.—Originally recorded from the island of Viti. Mr. Jennings secured one immature example.

Genus PALYSTES, L. Koch.

15. PALYSTES IGNICOMUS, ♂, L. Koch.—Originally recorded from New Ireland. Dr. Willey collected specimens of this species in New Britain. Mr. Jennings' specimen is a ♂, and unfortunately immature; nevertheless I do not think there can be any doubt as to its identity.

16. PALYSTES RETICULATUS, sp. nov.

(Plate xxiv., fig. 4.)

♀. Cephalothorax 4.9 mm. long, 4 mm. broad; abdomen 6 mm. long, 4 mm. wide.

Cephalothorax longer than broad, moderately convex, hairy. *Caput* moderately arched, sloping forward, thickly clothed with yellowish hairs, narrowest in front, yellowish. *Clypeus* yellowish, moderately arched, hairy, radial grooves indistinct, median groove a distinct longitudinal cleft or furrow.

Eyes arranged in two transverse rows; of these the first is the shorter of the two, and forms a straight line, whilst those comprising the second row are very slightly procurved; of the first row the median pair of eyes are the smallest of the group, and those constituting the second row are a little smaller than the anterior lateral eyes, and are separated from each other by a space equal to twice their individual diameter.

Legs yellowish, long, strong, hairy, armed with long, dark brown spines. Relative lengths: 1, 2, 3, 4.

Palpi long, similar in colour and armature to legs.

Falces yellow, long, robust, hairy, inferior margin armed with three teeth.

Maxilla normal.

Labium rather longer than wide, truncated at tip.

Sternum yellow, shield-shaped, hairy.

Abdomen obovate, yellowish, reticulated, hairy.

Mr. Jennings secured three ♀ specimens of this species, all of which were immature. One of these, when taken, was in the act of moulting; in this example the reticulation was very distinct; moreover there was exposed a long, broad median furrow terminating just below the middle, and from which three pairs of short, narrow, lateral grooves proceed; from the tip of the furrow a long, thin line extends, terminating near the spinnerets. The furrow, although obscured, can be clearly traced in the other two specimens.

G N A T H O P A L Y S T E S, gen. nov.

This genus should fall between *Palystes*, L. Koch, and *Tychicus*, E. Simon. It differs from the former principally by the chelicers being subporrected and by the dentition of the inferior margins, *Palystes* having three teeth and *Gnathopalystes* four; and from *Tychicus* by the tarsal scopulae, which although dense are not nearly so long.

Cephalothorax longer than broad, attenuated in front, arched, densely pilose.

Eyes eight, arranged in two rows of four each; the anterior row is considerably the shorter of the two, slightly procurved, and the two median eyes the smallest of the series; the posterior row forms a straight line, and the eyes comprising it are of equal size and equidistant; the anterior lateral eyes are considerably the largest of the entire group.

Legs long, robust, densely pilose, armed with long, strong, adpressed spines; tarsi armed with long claws and furnished with scopulae.

Palpi long, robust, similar in armature to legs.

Falces robust, long, densely pilose, subporrected, the inferior margins armed with four teeth.

Maxille robust, arched, lateral angles constricted near the centre.

Labium rather longer than broad, constricted laterally near the base, apex obtusely truncated.

Sternum shield-shaped, smooth, hairy.

Abdomen obovate, densely pilose.

Mammillæ moderately long, densely pilose.

17. GNATHOPALYSTES FEROX, sp.nov.

(Plate xxv., figs, 5, 5a, 5b, 5c.)

♀. Cephalothorax 8.4 mm. long, 7.1 mm. broad; abdomen 12.7 mm. long, 9 mm. broad.

Cephalothorax broad, arched, densely pilose, yellowish. *Caput* arched, attenuated, truncated in front, yellowish at base, ocular area tawny, densely pilose. *Clypeus* broad, arched, median depression a deep, elongated longitudinal cleft, radial grooves visible, densely pilose, yellowish. *Marginal band* broad, of a pale colour, and fringed with long, pale, yellowish hairs.

Eyes distributed over two rows, of which the anterior is the shortest; of the four comprising this row, the median pair are much the smallest, and these are separated from each other by a space equal to once their individual diameter, but are only just separated from their lateral neighbours, which are by far the largest of the eight; those of the posterior row are of equal size and form a straight line, and are slightly larger than the anterior median eyes; they are separated from each other by a space equal to fully twice their individual diameter, whilst the space that intervenes between the two rows is equal to about three times the diameter of one of the posterior eyes.

Legs yellowish, long, robust, densely pilose, armed with long, strong, closely adpressed dark brown spines; tarsal claws long, armed near their base with a row of strong teeth; each tarsus furnished with scopula. Relative lengths: 1, 2, 4, 3.

Palpi long, robust, similar in colour and armature to legs.

Falces long, robust, subporrected, divergent at tips, densely clothed with coarse yellowish bristles; the base is yellowish, deepening to tawny, apices dark brown; superior margin of each falx armed near base with one moderately long and one small

tooth; inferior margin armed with four teeth, and of these the two near the apex are the largest, the third one about half the size of the latter, and the fourth smaller still.

Maxillæ moderately long, robust, arched, glossy, clothed with yellowish hairs, outer angles constricted near the middle.

Labium concolorous, rather longer than broad, convex, glossy, constricted near the base, obtusely truncated at apex, moderately hairy.

Sternum shield-shaped, smooth, glossy, moderately pilose, somewhat convex, yellow, sides and apex surrounded with a broad pallid band.

Abdomen obovate, slightly projecting over base of cephalothorax, densely pilose, yellowish, ornamented near anterior extremity with two large dark brown spots, widely separated from each other; below these, and at about the centre, there are two other dark brown spots, equally as larger but wider apart; below these again there are two others, smaller, less distinct, and equally as wide apart; between the latter two, a prominent dark line commences, and this terminates near the region of the spinnerets; it is broadest at its commencement, tapering, and uneven in outline; the sides have a number of indistinct brown markings and spots; beneath, laterally, the colour is yellowish, but the median region, commencing at the epigastric fold, is tawny, gradually softening into pale yellow as the spinnerets are approached.

Epigyne obscured with hairs, but the form is oblong, flat, grooved laterally and posteriorly, and somewhat U-shaped.

Family LYCOSIDÆ.

Genus LYCOSA, Latr.

18. LYCOSA CÆNOSA, sp. nov.

(Plate xxv., fig. 6.)

♀. Cephalothorax 7·3 mm. long, 5·5 mm. broad; abdomen 10·1 mm. long, 6·7 mm. broad.

Cephalothorax obovate, arched, dark brown, with broad yellow median and lateral bands, the margins of which are uneven.

Caput dark brown in front, moderately clothed with rather long, coarse hairs; ocular area almost black. *Clypeus* broad, arched, pubescent, radial grooves distinctly marked, median depression long, narrow, dark. *Marginal band* moderately broad, fringed with yellowish hairs.

Eyes in three series of 4, 2, 2; those of the anterior row are small, slightly procurved, equidistant; the pair comprising the second row are the largest of the eight, and are separated from each other by a space equal to fully twice their individual diameter; those of the third row are large, but sensibly smaller than the preceding and are widely separated from each other.

Legs moderately long, strong, yellowish, with dark brown annulations, armed with long, strong, dark spines; metatarsi and tarsi dark brown, nearly black. Relative lengths: 1, 2, 4, 3.

Palpi moderately long, similar in colour and armature to legs.

Falces robust, dark brown, thickly clothed with coarse brown hairs or bristles; superior margin of each falx armed with two strong teeth, the inferior with three.

Maxille strong, club-ended, converging inwards, dark brown, densely clothed with coarse dark brown hairs.

Labium concolorous, longer than wide, apex truncated.

Sternum somewhat shield-shaped, yellowish, glossy, moderately convex, hairy.

Abdomen obovate, moderately projecting over base of cephalothorax, hairy; superior surface of a dirty yellowish-brown tint, with an obscure dark brown median patch, margined laterally and in front with a rather broad pale yellowish band; sides somewhat lighter in colour than superior surface; inferior surface pale yellowish.

Epigyne as in figure, broad at base, rounded in front, dark brown laterally and in front, median ridge glossy, yellowish.

19. LYCOSA OBSCÆNA, sp.nov.

(Plate xxv., fig. 7.)

♀. Cephalothorax 4.5 mm. long, 3.5 mm. broad; abdomen 7.4 mm. long, 4.4 mm. broad.

Cephalothorax obovate, arched, dark brown with broad median and narrow lateral yellow bands, the margins of which are uneven. *Caput* dark brown laterally, ocular area black, truncated in front, sparingly hairy. *Clypeus* broad, arched, pubescent, radial grooves distinctly marked, median depression long, narrow, dark. *Marginal band* moderately broad, black, fringed with yellowish hairs.

Eyes similar to *L. canosa*.

Legs long, moderately strong, tapering, yellowish with dark brown annulations, numerous spined and clothed with yellowish hairs.

Palpi similar in colour and armature to legs.

Falces robust, reddish-brown, apices divergent, clothed with coarse hairs or bristles, apices and inner margins especially so; superior margin of each falx armed with two teeth, and the inferior with three.

Maxille pale yellowish, club-ended, converging inwards, pubescent.

Labium concolorous, longer than wide, apex truncated.

Sternum shield-shaped, flat, of a dirty yellowish tinge, hairy.

Abdomen obovate, projecting over base of cephalothorax, pubescent, of a dirty yellowish-brown colour; commencing at anterior extremity and continuing for about half the length there are two fine obscure black lines; these are placed rather closely together, are united in front by a curve, and meet at their posterior extremity; within these black lines, and surrounding them, the colour is somewhat paler.

Epigyne as in figure, longer than broad, surrounded with a slightly elevated ridge; within, the median ridge is broadest at the base and narrowest at apex, and of a bright shining yellowish tint.

Family ATTIDÆ.

Genus ICIUS, E. Simon.

20. ICIUS EXIMIUS, sp.nov.

(Plate xxv., figs. 8, 8a, 8b.)

♂. Cephalothorax 2·4 mm. long, 1·5 mm. broad; abdomen 3·3 mm. long, 1·7 mm. broad.

Cephalothorax long, narrow, moderately high, sides parallel, furnished with a few rather long white hairs, and thickly set with short iridescent scale-like hairs. *Caput* flat, slightly sloping forward, rather thickly set with iridescent scale-like hairs. *Clypeus* has the anterior half sloping gently and the posterior half precipitately; colour black, clothed with iridescent scale-like hairs. *Marginal band* fairly broad and clothed like the foregoing.

Eyes: anterior row moderately curved, and of these the median pair are much longer than their lateral neighbours; the pair comprising the second row are minute, and are seated slightly nearer to the posterior than to the anterior row; the posterior eyes are equal in size to the lateral eyes of the anterior row, they are widely separated and are seated well back on the lateral angles of the cephalic segment; anterior eyes surrounded with iridescent hairs; quadrangle about one-third wider than long.

Legs short, slender, the first and fourth pairs much the darkest, the second and third yellowish; each is clothed with long, fine hairs and armed with slender spines. Relative lengths: 1, 4, 2, 3.

Palpi short, yellowish, genital bulb broad.

Falces rather long, arched, yellowish, apices slightly divergent.

Maxilla short, divergent, apices rounded, black, broadly margined with yellow at inner and outer margins and tips.

Labium short, truncated, black at base, yellowish at apex.

Sternum shield-shaped, longer than broad, black, clothed with hoary hairs.

Abdomen oblong, arched, dark brown, nearly black, clothed in parts with iridescent scale-like hairs, and surrounded with a rather broad band of white scale-like hairs; there are also a few of the latter scattered over the upper surface; just above the spinnerets there is a transverse bar of silvery scales, and a little above this again two other slightly curved transverse bars of concolorous scales, the curvature directed forwards; inferior surface is also very dark brown, thinly clothed with white pubescence; laterally there are large patches of ashy-coloured scales, and

immediately in front of spinnerets a broad transverse bar of the same.

Genus *JOTUS*, L. Koch.

21. *JOTUS FORMOSUS*, sp. nov.

(Plate xxv., fig. 9.)

♂. Cephalothorax 2·4 mm. long, 1·8 mm. broad; abdomen 2·1 mm. long, 1·7 mm. broad.

Cephalothorax dark brown, pubescent, high. *Caput* flat, broad, bulging laterally, sloping forward, of a golden-brown tint, clothed with yellowish and golden-brown hairs. *Clypeus* retreating laterally, sloping abruptly to posterior angle, dark brown, glossy, pubescent. *Marginal band* broad.

Eyes: anterior row curved, and of these the median pair are much larger than their anterior neighbours; the pair comprising the second row are minute and are seated slightly nearer to the posterior than the anterior row; the posterior eyes are scarcely as large as the lateral eyes of the anterior row, but they are prominent and bulging; anterior eyes surrounded with long golden-brown hairs; quadrangle wider than long.

Legs moderately strong, tapering, hairy, armed with strong spines, dark brown with exception of lower joints, which are yellow with dark brown annulations; tarsal claws and scopulae dark brown. Relative lengths: 1, 4, 3, 2.

Palpi long, reddish-brown, similar in clothing and armature to legs; genital bulb small.

Falces short, rounded at sides, flat in front, dark, apices reddish-brown.

Maxille long, broad, convex, yellowish, apices rounded off.

Labium short, broad, apex truncated; base dark brown, apex yellowish.

Sternum ovate, slightly convex, dark brown, hairy.

Abdomen rounded in front, acuminate behind, longer than wide, hairy: colour in front dark brown followed by a broad, transverse band of bright yellow, then a narrow transverse bar of dark brown, succeeded by another of golden brown; apex dark

brown relieved by a curved row of three white spots; inferior surface dark brown, clothed with hoary hairs.

Genus *HABROCESTUM*, E. Simon.

22. *HABROCESTUM* *PECKHAMI*, sp. nov.

(Plate xxv., fig. 10.)

♂. Cephalothorax 2 mm. long, 1.5 mm. broad; abdomen 1.5 mm. long, 1.5 mm. broad.

Cephalothorax convex, high, rather short, glossy, brown, clothed with hoary hairs. *Caput* yellow, sloping forward, sparingly clothed with long dark hairs, but thickly so with yellowish and white pubescence. *Glypeus* sloping gently backwards, sides sloping outwards, glossy, brown, furnished laterally with long hoary hairs.

Eyes: anterior row slightly curved, and of these the medians are twice as large as their lateral neighbours; the pair comprising the second row are minute, and are seated about midway between anterior and posterior rows; the posterior eyes are equal in size to the lateral eyes of the anterior row; anterior eyes surrounded with yellowish hairs; quadrangle of eyes one-third wider than long.

Legs stout, yellowish with brown annulations, densely hairy, and armed with strong spines. Relative lengths: 3, 4, 1, 2.

Palpi short, similar in colour and armature to legs.

Falces dark brown, apices yellowish, weak, short, vertical.

Maxilla broad, convex, apices rounded, yellowish.

Labium broad, dark brown at base, apex round, yellowish.

Sternum shield-shaped, yellowish, glossy, clothed with hoary hairs.

Abdomen arched, rounded off in front, acuminate behind, densely clothed with long, coarse hairs; the colour is black in front, followed by a broad transverse band of yellowish-grey, then a narrow, curved bar of yellow, succeeded by a broad transverse bar of black and one of yellow; the curvature of each of the bars described is directed backwards; the remainder of the surface to

the spinnerets is black; spinnerets yellow and projecting; inferior surface dark brown, densely clothed with long, hoary hairs.

Epigyne large, transversely oval, yellowish.

I have named this species in honour of my esteemed correspondents and co-workers, Dr. G. W. and Mrs. Elizabeth Peckham, of Milwaukee, Wisconsin, U.S.A., to whom I am indebted for much valuable information and assistance.

Genus BAVIA, E. Simon.

23. BAVIA CALVIPALPIS, L. Koch.—Originally recorded from Upolu.

24. BAVIA DULCINERVIS, L. Koch.—Originally recorded from Pelew Island.

EXPLANATION OF PLATE.

Plate xxiv.

- Fig. 1. —*Ischnocolus nebulosus*, ♀.
 Fig. 2. —*Araneus suavis*, ♀.
 Fig. 2a.— ,, ,, epigyne.
 Fig. 3. —*Ennesiotes jenningsi*, ♀ (illustrating one of the varieties).
 Fig. 3a.— ,, ,, eyes.
 Fig. 3b.— ,, ,, anterior leg.
 Fig. 4. —*Palystes reticulatus*, ♀.

Plate xxv.

- Fig. 5. —*Gnathopalystes ferox*, ♀.
 Fig. 5a.— ,, ,, maxillæ and lip.
 Fig. 5b.— ,, ,, lower ridge of falx.
 Fig. 5c.— ,, ,, eyes.
 Fig. 6. —*Lycosa canosa*, epigyne.
 Fig. 7. — ,, *obsœna* ,,
 Fig. 8. —*Icius eximius*, ♂, cephalothorax, side view.
 Fig. 8a.— ,, ,, abdomen.
 Fig. 8b.— ,, ,, palpus.
 Fig. 9. —*Jotus formosus*, ♂.
 Fig. 10. —*Habrocestum peckhami*, ♀.